WHAT IS CLAIMED IS:

1.    A method for detecting a boundary in a stream of digital sample
values, wherein the boundary is between an idle communications channel
and a transmission packet on the same communications channel, the
method comprising:

receiving the stream of digital sample values;

correlating a digital sample value with a plurality of received digital
sample values;

calculating a correlation value based on the correlation;

comparing the correlation value against a threshold; and

determining the presence of the boundary based on the comparison.

2.    The method of claim 1, wherein the digital sample value is a recently
received digital sample value.

3.    The method of claim 1, wherein the stream of digital sample values
are generated by periodically sampling the communications channel.

4.    The method of claim 1, wherein the digital sample value is a recently
sampled value.

5.      The method of claim 1, wherein the correlation is a two value correlation.

6.      The method of claim 1, wherein the correlation is a multi-value correlation.

7.      The method of claim 6, wherein the correlation is a three value correlation.

8.      The method of claim 1, wherein the plurality of received digital sample values are selected from the received stream based on their position in different periods of a periodic sequence.

9.      The method of claim 1, wherein the received stream is stored in a memory, wherein the boundary being detected is a boundary at an end of a periodic sequence, and wherein the plurality of received digital sample values are digital sample values stored in memory locations with memory addresses that correspond to integer multiples of a number of digital sample values in a period of the periodic sequence starting at the memory address of the memory location containing the digital sample value.

10.    The method of claim 9, wherein the number of digital sample values

in the plurality of received digital sample values is less than or equal to the

number of periods in the periodic sequence.

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11.     A method for packet detection in a stream of digital sample values, the method comprising:

receiving the stream of digital sample values;

correlating a digital sample value with a plurality of received digital

5  sample values;

calculating a correlation value based on the correlation;

comparing the correlation value against a threshold; and

determining the presence of the packet based on the comparison.

10  12.     The method of claim 11, wherein the packet is transmitted over a previously idle communications channel.

13.     The method of claim 12, wherein the stream of digital sample values is produced by periodically sampling the communications channel.

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14.     The method of claim 13, wherein a digital sample of the idle communications channel is different in value from a digital sample of the communications channel transmitting the packet.

20  15.     The method of claim 11, wherein the received stream is stored in memory, and wherein the correlating step comprises:

comparing the digital sample value with the plurality of received

digital sample values;

generating a one value for each time the digital sample value

matches with one of the digital sample values in the plurality; and

5          generating a zero value for each time the digital sample value does

not match with one of the digital sample values in the plurality.


16.    The method of claim 11, wherein the calculating step comprises

summing up a correlation result resulting from each correlation of the digital

10    sample value with the plurality of previously received digital sample values.


17.    The method of claim 11, wherein the correlating and calculating steps

are performed more than once and an average correlation value is

determined and compared against the threshold.

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18.    The method of claim 11, wherein the packet detection is performed

after each digital sample value is received.


19.    The method of claim 11, wherein the packet detection is performed

20    after a specified number of digital sample values is received.